



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,130	01/28/2004	Robert A. Cochran	200210226-1	4298
22879 7590 12/11/2009 HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528				
EXAMINER				
COULTER, KENNETH R				
ART UNIT		PAPER NUMBER		
2454				
NOTIFICATION DATE		DELIVERY MODE		
12/11/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM

ipa.mail@hp.com

laura.m.clark@hp.com

Office Action Summary

Application No.

10/767,130

Applicant(s)

COCHRAN, ROBERT A.

Examiner

Kenneth R. Coulter

Art Unit

2454

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-21, 23, 24 and 26-33 is/are rejected.
- 7) ☒ Claim(s) 9, 22 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 8, 10 – 21, 23, 24, and 26 – 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Laurent et al. (U.S. Pat. No. 7,222,176) (Apparatus and Method for Using Storage Domains for Controlling Data in Storage Area Networks).

1.1 Regarding claim 1, Laurent discloses a storage network, comprising:

a plurality of storage cells, at least one storage cell including physical storage media and a storage media controller that controls data transfer operations with the storage media (Abstract; Figs. 2, 3, 4; col. 1, lines 8 – 13; col. 3, lines 29 – 40 “Storage Domain Server”);

a plurality of host computers configurable to execute write operations to at least one storage cell (Figs. 2, 3, 4; col. 5, lines 34 – 39 “**hosts can access the data** without regard to the physical device technology, or connection schemes.”; col. 3, lines 29 – 40

"The Storage Domain Server logically maps physical storage data on individual storage devices to logical storage data and **presents to each host the storage resources allocated to that host by the storage administrator** with the Storage Domain."; col. 4, lines 38 – 48);

at least one write control server that regulates the write operations of one or more of the plurality of host computers (Figs. 2, 3, 4; col. 1, lines 8 – 13 "partitioning of data in Fiber Channel (FC) based storage area networks (SANs) into storage domains (SDs) that are **controlled by Storage Domain Servers (SDSs)** such that **global control and access to data storage is provided by the SDS**"; col. 3, lines 29 – 40; col. 4, lines 38 – 48); and

a communication network that provides communication connections between the storage cells, the host computers, and the write control server (Figs. 2, 3, 4; Abstract).

1.2 Per claim 2, Laurent teaches the storage network of claim 1, wherein the plurality of storage cells are geographically distributed (Abstract "regardless of physical location"; col. 4, line 54 – col. 5, line 9; col. 6, lines 54 – 62).

1.3 Regarding claim 3, Laurent discloses the storage network of claim 1, wherein at least one of the plurality of host computers executes write operations to store data in a primary storage unit (Figs. 2, 3, 4; col. 1, lines 8 – 13; col. 3, lines 29 – 40).

1.4 Per claim 4, Laurent teaches the storage network of claim 3, wherein data written

to the primary storage unit is replicated to a secondary storage unit (col. 11, lines 41 – 59 “mirror MS 1” “mirror MS 2”).

1.5 Regarding claim 5, Laurent discloses the storage network of claim 1, wherein the write control server implements a write permission queue to regulate write operations of the host computers (Abstract; col. 3, lines 29 – 40 “resources allocated to the host by the storage administrator”; col. 3, line 59 – col. 4, line 9; col. 9, lines 54 – 62).

1.6 Per claim 6, Laurent teaches the storage network of claim 5, wherein the write control server grants write permission to only a single host computer in the write permission queue at any point in time (Abstract; Fig. 3; col. 5, lines 51 – 64; col. 9, lines 54 – 62).

1.7 Regarding claim 7, Laurent discloses the storage network of claim 5, wherein: the write control server grants write permission to a plurality of the host computers in the write permission queue at any point in time; and the write control server maintains a write permission log (Abstract; col. 3, lines 29 – 40; col. 3, line 59 – col. 4, line 9; col. 5, lines 51 – 64; col. 9, lines 54 – 62).

1.8 Per claim 8, Laurent teaches the storage network of claim 5, wherein: host computers submit write requests to the write control server; and the write control server implements a reverse handicapping routine when positioning the write requests in the

write permission queue (Abstract; col. 3, lines 29 – 40; col. 3, line 59 – col. 4, line 9; col. 5, lines 51 – 64; col. 9, lines 54 – 62).

1.9 Regarding claims 10 – 21, 23, 24, and 26 – 33, the rejection of claims 1 – 8 under 35 USC 102(e) (paragraphs 1.1 – 1.8 above) applies fully.

Response to Arguments

Applicant's arguments filed 7/16/09 have been fully considered but they are not persuasive.

Applicant argues that contrary to the assertion in the Action, nothing in this text discloses (nor even suggests) a plurality of host computers configurable to execute write operations to at least one storage cell, and at least one write control server that regulates the write operations of one or more of the plurality of host computers." (p. 12, last paragraph of Arguments on 7/16/09).

Examiner disagrees.

Laurent discloses "a plurality of host computers configurable to execute write operations to at least one storage cell" (col. 5, lines 34 – 39 "**hosts can access the data** without regard to the physical device technology, or connection schemes.").

Accessing data in a storage device is equivalent to executing write operations to at least one storage cell.

Laurent teaches “at least one write control server that regulates the write operations of one or more of the plurality of host computers” (col. 1, lines 8 – 13 “partitioning of data in Fiber Channel (FC) based storage area networks (SANs) into storage domains (SDs) that are **controlled by Storage Domain Servers (SDSs)** such that **global control and access to data storage is provided by the SDS**.”; col. 3, lines 29 – 40 “The Storage Domain Server logically maps physical storage data on individual storage devices to logical storage data and **presents to each host the storage resources allocated to that host by the storage administrator** with the Storage Domain.”).

A server that implements global control and access to data storage and presents to each host the storage resources allocated to that host is equivalent to a write control server that regulates the write operations of one or more host computers.

Allowable Subject Matter

Claims 9, 22, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R. Coulter whose telephone number is 571 272-3879. The examiner can normally be reached on M - F, 7:30 am - 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth R Coulter/
Primary Examiner, Art Unit 2454

/KRC/